What causes the X-ray flares in eta Car?

Anthony F.J. Moffat^1 , $\mathsf{Michael}\ \mathsf{F}.\ \mathsf{Corcoran}^2$

- 1 Universite de Montreal
- 2 NASA/GSFC

We examine the rapid variations in X-ray brightness ("flares") assumed to arise in the hard X-ray emitting wind-wind collision zone (WWCZ) of eta Car, as seen during the past three orbital cycles by RXTE. Among the plausible scenarios (1. multiscale stochastic wind clumps entering the WWCZ, 2. large-scale corotating interacting regions in the wind sweeping across the WWCZ, or 3. instabilities intrinsic to the WWCZ), only the first one appears to be consistent with the observations.